Mineral Industry Surveys

For information, contact:
John F. Papp, Chromium Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4963, Fax: (703) 648-7757
E-mail: jpapp@usgs.gov

Joseph M. Krisanda (Data)
Telephone: (703) 649-7987
Fax: (703) 648-7975
E-mail: jkrisand@usgs.gov

Internet: http://minerals.usgs.gov/minerals

CHROMIUM IN SEPTEMBER 2004

On the basis of gross weight, consumption of chromium ferroalloys and metal in September 2004 decreased 8% compared with consumption in August 2004; consumption in the third quarter 2004 increased slightly compared with consumption in the second quarter 2004 and increased 23% compared with consumption in the third quarter 2003, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. government stockpile inventory of chromium materials in September 2004, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of September 2004, and U.S. foreign trade data for selected chromium-containing materials in August 2004.

Update

The Defense National Stockpile Center (DNSC) announced the sale of 4,536 metric tons (t) of high-carbon ferrochromium in October. The sale was valued at $4.24 million or $0.424 per pound, gross weight (Defense National Stockpile Center, 2004b). In its Annual Materials Plan for fiscal year 2005, the DNSC set permitted sales of chemical and refractory grade chromite ore at 90,719 t each, ferrochromium at 99,790 t, and chromium metal at 454 t (Defense National Stockpile Center, 2004a).

References Cited

Defense National Stockpile Center, 2004a, Annual Materials Plan for FY 2005: Defense National Stockpile Center, News Release DNSC-05-2518, October 1, 3 p.

Defense National Stockpile Center, 2004b, Stockpile announces ferrochromium sales for October 2004: Defense National Stockpile Center, News Release DNSC-05-2523, November 5, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2003	2004					
	January-December[2]	June	Second quarter[2]	July	August	September	January-September[2]
Production:							
Stainless steel production[3]	2,210,000	214,000	562,000 [4]	189,000	220,000	175,000	1,730,000 [4]
Components of U.S. supply:							
Stainless steel scrap receipts	757,000	67,500	199,000	62,700	63,300	63,200	597,000
Stainless steel scrap consumption	1,070,000	94,100	284,000	92,500	96,200	86,500	840,000
Imports for consumption:							
Chromite ore	173,000	6,600	30,000	461	20,200	NA	87,700 [5]
Ferrochromium:							
More than 4% carbon	366,000	50,800	121,000	22,100	54,600	NA	253,000 [5]
More than 3% carbon but not more than 4% carbon	--	--	--	--	20	NA	20 [5]
More than 0.5%, but not more than 3% carbon	5,340	1,580	3,300	20	1,090	NA	4,430 [5]
Not more than 0.5% carbon	19,500	5,920	10,900	1,120	3,530	NA	21,400 [5]
Ferrochromium silicon	38,700	4,710	11,300	--	3,870	NA	20,200 [5]
Total ferroalloy imports	429,000	63,100	146,000	23,300	63,100	NA	299,000 [5]
Chromium metal[6]	8,570	700	2,730	923	526	NA	6,570 [5]
Stainless steel	639,000	67,400	197,000	71,000	63,700	NA	492,000 [5]
Stainless steel scrap	89,200	9,060	30,200	8,850	12,400	NA	99,600 [5]
Distribution of U.S. supply:							
Consumption, industry, chromium ferroalloys and metal	420,000	35,900	109,000	37,000	37,600	34,700	323,000
Exports:							
Chromite ore	103,000	11,000	16,200	8,180	10,200	NA	38,300 [5]
Chromium ferroalloys:							
High-carbon ferrochromium	3,180	405	1,040	457	334	NA	4,770 [5]
Low-carbon ferrochromium	1,230	56	158	109	158	NA	882 [5]
Ferrochromium silicon	481	211	463	147	41	NA	964 [5]
Total ferroalloy exports	4,890	671	1,660	713	533	NA	6,610 [5]
Chromium metal	941	79	325	100	93	NA	723 [5]
Stainless steel	327,000	25,900	78,300	27,600	23,100	NA	221,000 [5]
Stainless steel scrap	505,000	62,900	140,000	34,700	31,100	NA	322,000 [5]
Stocks at end of period:							
Consumer, industry, chromium ferroalloys and metal	16,700	12,300	XX	10,800	11,200	11,600	XX
Government stockpile:							
Chromite ore	154,000	--	XX	--	--	--	XX
Chromium ferroalloys	683,000	633,000	XX	622,000	619,000	601,000	XX
Chromium metal	6,660	6,660	XX	6,670	6,670	6,670	XX

NA Not available. XX Not applicable. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May contain revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]Includes revised data that is not broken out by specific month.

[5]Includes January through August data; September data not available.

[6]Includes waste and scrap and other.

TABLE 2

U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS IN 2004[1]

(Metric tons, gross weight unless otherwise noted)

	August	September	January-September[2]
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	366	394	3,030
High-strength low-alloy steel	723	691	5,770
Stainless and heat-resisting steel	32,600	29,800	281,000
Full alloy steel	1,640	1,570	13,800
Electrical steel	W	W	W
Tool steel	476	482	4,280
Unspecified Steel	W	W	W
Cast irons	W	W	W
Superalloys	739	779	6,720
Other alloys[3]	47	83	592
Total	37,600	34,700	323,000
Total, chromium content	22,100	20,200	189,000
Consumption by material:			
Low-carbon ferrochromium	2,040	1,850	17,700
High-carbon ferrochromium	31,700	29,200	274,000
Ferrochromium silicon	3,260	3,060	26,800
Chromium metal	393	417	3,460
Chromite ore	W	W	W
Chromium-aluminum alloy	30	31	289
Other chromium materials	W	W	W
Total	37,600	34,700	323,000
Total, chromium content	22,100	20,200	189,000
Consumer stocks:			
Low-carbon ferrochromium	1,810	1,960	XX
High-carbon ferrochromium	8,000	8,180	XX
Ferrochromium silicon	1,160	1,250	XX
Chromium metal	164	167	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	28	37	XX
Other chromium materials	W	W	XX
Total	11,200	11,600	XX
Total, chromium content	6,670	6,850	XX

W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromite ore		Chromium ferroalloys		Chromium metal
	Chemical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2003:					
September	70,900	82,600 [3]	482,000	218,000	7,100
October	71,500 [3]	82,600	477,000	218,000	7,120 [3]
November	71,500	82,600	472,000	217,000	7,120
December	71,500	82,600	466,000	217,000	6,660
2004:					
January	--	82,600	462,000	215,000	6,660
February	--	82,100	453,000	212,000	6,660
March	--	82,100	453,000	212,000	6,660
April	--	--	436,000	209,000	6,660
May	--	--	430,000	208,000	6,660
June	--	--	425,000	208,000	6,660
July	--	--	414,000	208,000	6,670
August	--	--	412,000	206,000	6,670
September	--	--	408,000	192,000	6,670

-- Zero.

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

[3]The increase resulted from the reclassification of physical inventory from committed to uncommitted. It did not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4

U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2003:							
August	22,900	$949	387	232	$455	119	$1,320
September	17,200	626	378	211	479	47	1,160
October	1,030	214	393	208	485	72	1,350
November	634	194	462	262	502	152	2,120
December	54,600	4,090	502	285	548	65	958
January-December	103,000	7,410	4,890	2,830	5,240	941	11,900
2004:							
January	223	74	583	344	767	76	1,520
February	2,510	548	685	409	1,040	76	1,660
March	938	290	2,440	1,400	2,940	54	1,710
April	1,340	359	623	348	735	69	2,230
May	3,920	480	370	198	443	177	1,850
June	11,000	1,570	671	362	931	79	1,400
July	8,180	2,130	713	398	1,000	100	1,570
August	10,200	2,680	533	322	685	93	1,510
January-August	38,300	8,130	6,610	3,780	8,540	723	13,400

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2003	2004			
	January-December[2]	June	July	August	January-August[2]
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	77	--	--	--	--
Chromic oxide content	24	--	--	--	--
More than 40% but less than 46% chromic oxide:					
Gross weight	7,940	348	187	192	1,290
Chromic oxide content	3,370	156	85	87	583
46% or more chromic oxide:					
Gross weight	165,000	6,250	274	20,000	86,400
Chromic oxide content	77,400	3,140	130	9,910	41,100
Total, all grades:					
Gross weight	173,000	6,600	461	20,200	87,700
Chromic oxide content	80,800	3,290	215	10,000	41,700
Ferrochromium:					
Low-carbon:[3]					
Not more than 0.5%:					
Gross weight	19,500	5,920	1,120	3,530	21,400
Chromium content	13,300	4,000	772	2,400	14,500
More than 0.5% but not more than 3%:					
Gross weight	5,340	1,580	20	1,090	4,430
Chromium content	3,420	1,100	15	708	3,010
Total, low-carbon:					
Gross weight	24,900	7,510	1,140	4,620	25,800
Chromium content	16,800	5,100	787	3,110	17,500
Medium-carbon:[4]					
Gross weight	--	--	--	20	20
Chromium content	--	--	--	10	10
High-carbon:[5]					
Gross weight	366,000	50,800	22,100	54,600	253,000
Chromium content	210,000	28,800	11,200	32,800	142,000
Total, all grades:					
Gross weight	391,000	58,300	23,300	59,200	279,000
Chromium content	227,000	33,900	12,000	35,900	160,000
Chromium metal:					
Unwrought powders	1,810	96	99	78	971
Waste and scrap	284	--	20	--	41
Other than waste and scrap amd unwrought powders	6,480	604	804	448	5,560
Total, all grades	8,570	700	923	526	6,570

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 3% carbon but not more than 4% carbon.

[5]Ferrrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6

U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2004, BY GRADE AND BY COUNTRY[1]

Grade and country	August			January-August[2]		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)
High-carbon ferrochromium:[4]						
India	12,800	8,010	$10,300	12,900	8,110	$10,400
Kazakhstan	16,800	11,600	16,900	56,400	39,100	53,700
Russia	904	588	812	3,240	2,120	2,880
South Africa	19,700	10,000	13,300	154,000	76,900	87,700
Zimbabwe	4,420	2,610	2,910	26,900	15,900	16,600
Total	54,600	32,800	44,300	253,000	142,000	171,000
Medium-carbon ferrochromium[5], South Africa	20	10	12	20	10	12
Low-carbon ferrochromium:[6]						
More than 0.5% but not more than 3% carbon						
Germany	--	--	--	63	44	72
Kazakhstan	--	--	--	2,020	1,400	3,520
Russia	506	346	630	1,470	1,010	2,040
South Africa	580	362	767	880	545	1,090
Total	1,090	708	1,400	4,430	3,010	6,720
Not more than 0.5% carbon:						
China	7	5	14	127	82	209
Germany	420	320	784	2,620	1,870	4,390
Japan	200	140	462	1,320	936	3,010
Kazakhstan	120	83	187	270	189	352
Russia	2,270	1,570	3,480	14,100	9,710	19,300
South Africa	477	255	435	2,800	1,590	2,370
Sweden	19	14	63	19	14	63
Turkey	16	11	33	116	81	225
Total	3,530	2,400	5,450	21,400	14,500	29,900
All grades:						
China	7	5	14	127	82	209
Germany	420	320	784	2,680	1,910	4,460
India	12,800	8,010	10,300	12,900	8,110	10,400
Japan	200	140	462	1,320	936	3,010
Kazakhstan	16,900	11,700	17,100	58,700	40,700	57,600
Russia	3,680	2,500	4,920	18,800	12,800	24,200
South Africa	20,700	10,600	14,500	157,000	79,100	91,200
Sweden	19	14	63	19	14	63
Turkey	16	11	33	116	81	225
Zimbabwe	4,420	2,610	2,910	26,900	15,900	16,600
Total	59,200	35,900	51,100	279,000	160,000	208,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Ferrochromium containing more than 4% carbon.

[5]Ferrochromium containing more than 3% carbon but no more than 4% carbon.

[6]Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 7

U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2004, BY GRADE AND BY COUNTRY[1]

Grade and country	August		January-August[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
China	20	$89	220	$878
France	--	--	6	31
Germany	(4)	8	59	323
Japan	18	157	139	1,600
Russia	40	178	408	2,070
Spain	--	--	121	405
Taiwan	--	--	15	21
United Kingdom	(4)	33	3	358
Total	78	464	971	5,680
Waste and scrap:				
Germany	--	--	2	21
Japan	--	--	32	264
Singapore	--	--	1	22
Sweden	--	--	2	6
Taiwan	--	--	4	23
Total	--	--	41	336
Other than waste and scrap and unwrought powders:				
Austria	--	--	(4)	5
China	60	277	1,340	5,390
France	110	666	1,210	8,720
Germany	1	90	17	470
Japan	1	11	2	67
Liechtenstein	--	--	(4)	10
Mexico	--	--	3	9
Netherlands	--	--	7	34
Russia	184	805	1,510	6,890
Spain	(4)	4	(4)	4
Switzerland	--	--	(4)	35
Taiwan	--	--	2	15
United Kingdom	93	471	1,480	8,130
Total	448	2,320	5,560	29,800
All grades:				
Austria	--	--	(4)	5
China	80	366	1,560	6,270
France	110	666	1,210	8,750
Germany	1	98	79	814
Japan	19	167	173	1,930
Liechtenstein	--	--	(4)	10
Mexico	--	--	3	9
Netherlands	--	--	7	34
Russia	223	984	1,920	8,950
Singapore	--	--	1	22
Spain	(4)	4	121	409
Sweden	--	--	2	6
Switzerland	--	--	(4)	35
Taiwan	--	--	21	60
United Kingdom	93	504	1,490	8,490
Total	526	2,790	6,570	35,800

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8

U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2004[1]

Stainless steel product	August		January-August	
	Gross weight (metric tons)	Value[2] (thousands)	Gross weight (metric tons)	Value[2] (thousands)
Exports:				
Ingot	571	$2,780	5,640	$24,100
Flat-rolled (width > 600 mm)	9,170	26,100	105,000	248,000
Flat-rolled (width < 600 mm)	7,370	23,700	64,300	190,000
Bars and rods in irregular coils	399	1,370	2,440	8,570
Other bars and rods	1,800	8,880	15,200	82,000
Wire	667	4,360	5,540	36,800
Tubes, pipes, hollow profiles	3,100	14,500	23,100	108,000
Total	23,100	81,700	221,000	698,000
Stainless steel scrap	31,100	31,800	322,000	365,000
Grand total	54,200	113,000	543,000	1,060,000
Imports:				
Ingot	8,860	20,600	106,000	225,000
Flat-rolled (width > 600 mm)	30,400	70,100	209,000	469,000
Flat-rolled (width < 600 mm)	3,730	12,400	26,400	86,300
Bars and rods in irregular coils	3,760	8,950	26,500	63,100
Other bars and rods	6,210	21,300	42,600	129,000
Wire	3,030	11,900	24,800	91,700
Tubes, pipes, hollow profiles	7,680	38,400	56,300	254,000
Total	63,700	184,000	492,000	1,320,000
Stainless steel scrap	12,400	15,800	99,600	116,000
Grand total	76,100	200,000	591,000	1,430,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.